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A Study on "Optimizing Returns through Developing Effective Option Trading strategy: With Reference to Stock Options Traded in National Stock Exchange"

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Abstract: *Options are effective risk management tools which are used worldwide. Options are a type of derivative instruments which will offer only the right but not the obligation to trade in a specific underlying asset. In order to occupy this right the option holder should pay premium while entering into an option contract. This Premium will act as a source of expense to the option holder and the same is a source of return to the option writer. Therefore option traders must be very careful while deciding on the price of an option contract that is the premium. It is a well known fact that premium outlay can be minimized by effectively implementing option trading strategies. This research study involves optimizing the returns to the option trader by analysing and identifying four option trading strategies which are popularly known as cheap option trading strategies in terms of premium outlay. For the study two most actively traded index options and fifty most actively traded individual stock option contracts have been identified and the profit or loss profile is created in order to determine the optimal strategy which involves less premium outlay thereby optimizing returns to the option trader.*

Keywords: *Bear Put Spread, , Bull Call Spread, Long Iron Condor, Options, Option Trading strategies(OTSs), Short Put Synthetic Straddle*

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I. Introduction

It is a well known fact that option premium which is also known as price of an option contract is a source of expense to the option holder. Hence it should be minimized in order to optimize returns by trading in options contract. This premium can be minimized by effectively implementing the option trading strategies rather than trading in single option contract. For the same purpose four option trading strategies which are comparatively cheap are chosen for the study and a comparative study is made in order to find out the optimal strategy which will optimize the returns to the option trader. These four cost effective option trading strategies are Bull Call Spread, Bear Put Spread, Short Put Synthetic Straddle and Long Iron Condor.

II. Statement Of The Problem

Trading in options involves payment of premium. Traders will face problems while deciding on the price of an option contract i.e. how much premium to pay for a particular Option contract involving a particular underlying asset. It is found that option premium is a major expense to the option holder. Therefore an attempt was made to identify an effective option trading strategy which is cost effective and convenient to the trader irrespective of the market conditions that are prevailing. Here the main objective is to minimize the premium expense to the option holder while trading in an underlying stock or index whose price is range bound.

III. Review Of Literature

Diane Krueger examined the basics of options and recommends trading strategies. The author had mentioned in the study that investors treat options as less risky instruments but they should know what they are getting before getting into options contracts. The author further states that Options suffer from their own hazards though they are free from risk. In this research work the author has mentioned the hazards of trading in options, advantages and limits of trading in options; Risks involved; Variety of trading options depending on the underlying product; Elements that determine the premium of options; Possible scenarios if a trader purchases 10 call options (Kreuger, 2000).

Jackwerth, JC, Jackwerth, Jens Carsten focused on the recovery of risk aversion functions from option prices and realized returns on the Standard and Poor's 500 Stock Index. Changes in risk aversion functions

before, during and after the 1987 stock market crash; Mispricing in the option market; Role of simulated trading strategy on excess returns. The author has tried to establish relationship between aggregate risk neutral and subjective probability distributions and risk aersion functions (Jackwerth, 2000).

Jones & Richard L. focused on the strategy of cash-free trading with the money market in the U.S. Advantages of cash-free trading on the current account cash balance; In this article the author stated that cashless trading doesnot mean a trade free of cash but it means using others money in order to trade in the market. This study gives an idea of how to do cashless trade rather than predicting the market movements. Approach of the trading strategy by option selling; Benefit of credit spread on the reduced margin (Jones, May 2002).

Chen, An-Sing presented a study focused on the trading of at-the-money straddles using options on foreign currency futures, namely British Pound, Canadian Dollar, and Japanese Yen. In the present study the financial performance and economic significance of a direct profit forecast trading strategy are examined. This strategy uses a linear projection to directly forecast the profit of engaging in a straddle. The straddle is purchased when the forecast is positive and sold when negative. This is derived from the conventional option trading strategy of basing trading decisions on a two-step procedure of first generating a volatility forecast and then inputting the volatility forecast into an appropriate option pricing model to price the straddle. Through the study it was found that the direct profit forecast trading strategy removes volatility forecasting and option-pricing models from the straddle trading decision process altogether. This method has only one source of model risk, compared to the conventional two-step method which has two sources of model risk and it is possible that the direct forecast trading strategy with only one source of model risk may outperform the conventional method of trading straddles. Through the experimental investigation it was confirmed this notion and the out-of-sample results indicate that, for each of the currencies analysed, the direct forecasting strategy is more profitable than the conventional two-step method. Furthermore, the results are robust with respect to di1erent transaction cost assumptions. Finally it was concluded that, tests of economic significance indicate consistent market timing value for the direct forecast method (LEUNG A.-S. C., 2003).

Parnos, Mike discussed strategies in equity trading. This paper gives us the overview of utilization of long-term dated options at the major options exchanges; Nature of in-the-money strangle purchase; Translation of higher volatility in higher premiums. In this paper the auhtor had mentioned that money is neither created nor destroyed in the market but it only changes in hands. The author also points out that being an investor our motto should be to find money in the market. In the same sense the author discusses about Leaps which are famous financial instruments through which an investor can make money (Parsons, February 2003).

Chong & James examined the profitability of trading currency straddles on the basis of the volatility and correlation forecasts derived from various statistical models. They provided evidence to demonstrate that for maximum wealth accumulation, a trader should employ sophisticated models like the exponential GARCH for correlation forecasts and simpler ones like the exponential weighted moving average for volatility forecasts. In this changing market conditions with differing transaction costs structure between traders, the directional bets taken by the models of the market maker for the most part appear successful, reaping large positive returns. This is especially evident for GBP/DEM straddles and to a lesser extent for JPY/DEM straddles. However, the authors made a point that the options trading strategy profits of the price taker are insufficient to outweigh transaction costs, a result considered consistent with market efficiency (CHONG, 2004).

Charles Cao, Haitao Li & Fan Yu stated several recent studies which present evidence of investors misreaction in the options market. Although the interpretation of their results is still controversial, the important question of economic significance has not been fully addressed. In this study this gap is addressed by formulating regression-based tests to identify misreaction and its duration and constructing trading strategies to exploit the empirical patterns of misreaction. Regular S&P 500 index options and long-dated S&P 500 LEAPS are used to find an underreaction that on average dissipates over the course of 3 trading days and an increasing misreaction that peaks after four consecutive daily variance shocks of the same sign. Option trading strategies based on these findings produce economically significant abnormal returns in the range of 1–3% per day. However the authors also found that they are not profitable in the presence of transaction costs (CHARLES CAO, 2005).

Avellaneda, Marco presented the view regarding the interrelation of option pricing theory and quantitative trading strategies. The author believed that the quantitative finance community has made a significant progress in option valuation when it comes to inferring pricing kernels and their relation to entailed volatility surfaces, at the single stock level. The author also provided an overview of U.S. stock markets and European markets and tried to establish the relationship between the price variations through correlation as a statistical tool. In this paper Key concepts on pricing theory and trading are discussed by the author (Avellaneda, OCTOBER 2004).

Chaput, J. Scott & Ederington, Louis H. discussed that vertical spreads (bull and bear spreads) are a popular options trading strategy. In the Eurodollar futures options market, they represent about 9.4% of all

option trades of 100 contracts or more and account for about 11.6% of the trading volume. The article examines trade of vertical spreads for Eurodollar futures options to see how vertical spreads are designed and what those designs tell us about the objectives of vertical spread traders. The authors Compared vertical spreads with simple call and put positions, they first ask whether most vertical spread traders choose vertical spreads in order to reduce their risk and margin requirements on short positions or to reduce the net cost and raise the likelihood of gain on long positions. The authors found that many of the advantages of vertical spreads claimed in the practitioner literature appear unimportant to the majority of vertical spread traders. The authors also observed that for opening positions, the proportion of bull spreads in the sample is somewhat greater than 53.2% (EDERINGTON, 2005).

Landis, David says investors that "if you are like most shareholders, your repertoire of money-making moves is limited. You buy, maybe you collect dividends, and you wait for the price to ties. It's a safe strategy that works well in bull markets, not so well in bear markets". Jennifer Duce felt she needed to be more aggressive, especially after her employer of 16 years. United Airlines, defaulted on its pension obligations early this year. Duce, a pilot who lives in Miami, has been trading options, hoping she can rebuild her retirement savings more quickly. "As long as stocks are moving, you can make money with options," says Duce. Until recently, options were considered the province of professional traders, too complicated and risky for most individual investors. But the growth of online trading has begun to demystify options investing. Many online brokerages offer options trading, and commissions ate comparable to those charged for stock trades. But trading options is more complex than buying and selling stocks. It can be risky, too, although it doesn't have to be. "Just because people speculate in real estate should not stop you from buying a home," says David Kalt, chief executive of OptionsXpress, a brokerage that specializes in options trading. "The same goes for options." Further the author states that Buying puts, for example, is a way to immunize your portfolio against falling prices. And selling covered calls is a fairly safe way to generate income (Landis, OCTOBER 2OO5).

IV. Objectives Of The Study

Objectives of the present study are:

- To optimize returns to the option traders by developing an effective option trading strategy with special reference to stock and index options traded at National Stock Exchange.
- To compare the effectiveness of selected option trading strategies for selected stock and index options for a selected period of time.
- To create payoff profiles for selected option trading strategies for selected stock and index options for a selected period of time.
- To suggest the suitable and effective option trading strategies for selected stock and index options.

V. Hypothesis Stated For The Study

The following hypothesis has been formulated in order to test the effectiveness of the four selected option trading strategies:

5.1 H_0 – Bull Call Ladder strategy is indifferent in minimizing the loss of premium to the option holder in case of index options.

H_1 – Bull Call Ladder Strategy will make a difference in minimizing the loss of premium to the option holder in case of index options.

5.2. H_0 – Bull Call Ladder strategy is indifferent in minimizing the loss of premium to the option holder in case of individual stock options.

H_1 – Bull Call Ladder Strategy will make a difference in minimizing the loss of premium to the option holder in case of individual stock options.

5.3. H_0 – Bear Put Ladder strategy is indifferent in minimizing the loss of premium to the option holder in case of index options.

H_1 – Bear Put Ladder Strategy will make a difference in minimizing the loss of premium to the option holder in case of index options.

5.4. H_0 – Bear Put Ladder strategy is indifferent in minimizing the loss of premium to the option holder in case of individual stock options.

H_1 – Bear Put Ladder Strategy will make a difference in minimizing the loss of premium to the option holder in case of individual stock options.

5.5. H_0 – Short Put Synthetic Straddle strategy is indifferent in minimizing the loss of premium to the option holder in case of index options.

H_1 – Short Put Synthetic Straddle Strategy will make a difference in minimizing the loss of premium to the option holder in case of index options.

5.6 H_0 – Short Put Synthetic Straddle strategy is indifferent in minimizing the loss of premium to the option holder in case of individual stock options.

H_1 – Short Put Synthetic Straddle Strategy will make a difference in minimizing the loss of premium to the option holder in case of individual stock options.

5.7 H_0 – Long Iron Butterfly strategy is indifferent in minimizing the loss of premium to the option holder in case of index options.

H_1 – Long Iron Butterfly Strategy will make a difference in minimizing the loss of premium to the option holder in case of index options

5.8 H_0 – Long Iron Butterfly strategy is indifferent in minimizing the loss of premium to the option holder in case of individual stock options.

H_1 – Long Iron Butterfly Strategy will make a difference in minimizing the loss of premium to the option holder in case of individual stock options.

VI. Research Methodology

6.1 Research Design: It is an analytical research as it involves calculation of profit or loss profile of option traders by using the option premium and the possible prices of the underlying stock.

6.2 Sampling technique: For the present study consecutive sampling technique was followed to collect data

6.3 Type of data: For the present study the secondary data from National Stock Exchange was collected.

6.4 Sample size: For the present study 2 most actively traded index options 50 most actively traded individual stock options were selected from NSE website.

6.5 Selected Indices and Stock Option Contracts:

The following table will summarize the index options and individual stock options with their NSE symbol selected for the study:

Table 1: Selected Index and Stock Options for Research Study

Sl. No.	Selected Index Options	Symbol
1	Nifty Bank	BANKNIFTY
2	Nifty 50	NIFTY
Sl. No.	**Selected Individual Stock Options**	**Symbol**
1	Infosys Limited	INFY
2	Tata Consultancy Services Limited	TCS
3	State Bank of India	SBIN
4	Reliance Industries Limited	RELIANCE
5	Aurobindo Pharma Limited	AUROPHARMA
6	Reliance Capital Limited	RELCAPITAL
7	Hindalco Industries Limited	HINDALCO
8	Yes Bank Limited	YESBANK
9	Canara Bank	CANBK
10	Maruti Suzuki India Limited	MARUTI
11	Tata Steel Limited	TATASTEEL
12	DLF Limited	DLF
13	Vedanta Limited	VEDL
14	Bharat Financial Inclusion Limited	BHARATFIN
15	Kotak Mahindra Bank Limited	KOTAKBANK
16	Punjab National Bank	PNB
17	HDFC Bank Limited	HDFCBANK
18	Rural Electrification Corporation Limited	RECLTD
19	Axis Bank Limited	AXISBANK
20	Tata Motors Limited	TATAMOTORS
21	Jubilant Foodworks Limited	JUBLFOOD
22	TV18 Broadcast Limited	TV18BRDCST
23	Adani Enterprises Limited	ADANIENT
24	Bank of Baroda	BANKBARODA
25	Sun Pharmaceutical Industries Limited	SUNPHARMA
26	Ashok Leyland Limited	ASHOKLEY
27	ITC Limited	ITC
28	The Federal Bank Limited	FEDERALBNK
29	Dewan Housing Finance Corporation Limited	DHFL
30	Reliance Infrastructure Limited	RELINFRA
31	Housing Development Finance Corporation Limited	HDFC
32	Sun TV Network Limited	SUNTV
33	Hindustan Unilever Limited	HINDUNILVR
34	Indian Oil Corporation Limited	IOC
35	Voltas Limited	VOLTAS
36	ACC Limited	ACC
37	IndusInd Bank Limited	INDUSINDBK
38	Union Bank of India	UNIONBANK

39	Oil & Natural Gas Corporation Limited	ONGC
40	GMR Infrastructure Limited	GMRINFRA
41	DCB Bank Limited	DCBBANK
42	Bank of India	BANKINDIA
43	Bajaj Finance Limited	BAJFINANCE
44	CESC Limited	CESC
45	Sintex Industries Limited	SINTEX
46	Oriental Bank of Commerce	ORIENTBANK
47	BEML Limited	BEML
48	Zee Entertainment Enterprises Limited	ZEEL
49	Wipro Limited	WIPRO
50	Divi's Laboratories Limited	DIVISLAB

Source: www.nseindia.com

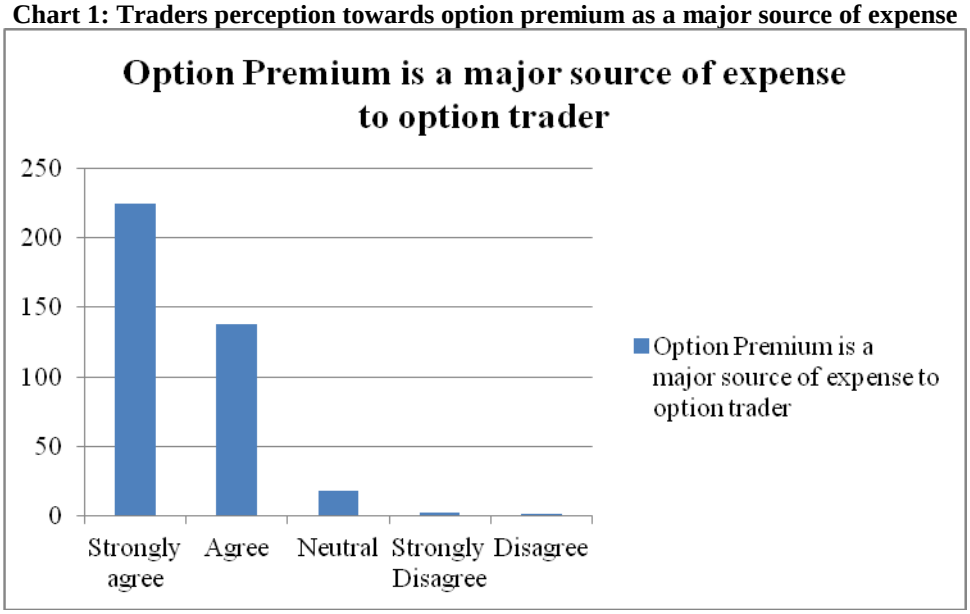
6.6 Selection Criteria for OTSs: Based on the results obtained from the analysis of Primary data it was found that Option Premium will act as the major source of expense to the option trader. The small portion of the same which supports the above statement is mentioned below:

Table 2: Traders perception towards option premium as a major source of expense

Variable	Strongly agree	Agree	Neutral	Strongly Disagree	Disagree
Option Premium is a major source of expense to option trader	225	138	18	2	1

Source: Survey

Chart 1: Traders perception towards option premium as a major source of expense



Source: Survey

Analysis and Interpretation: From the above table and chart it can be interpreted that most of the option traders believe that option premium acts as major source of expense while trading in options contract. This research study makes an attempt to find an effective option trading strategy which is cost effective in terms of payment of premium.

6.7 Brief description of selected OTSs:

For the present study four option trading strategies which are well known as cheap Option Trading Strategies (Guy Cohen, 2013) were selected. They are as follows:

6.7.1. Bull Call Ladder: Also known as long call ladder is an extension to Bull Call Spread. This strategy is a limited profit, unlimited risk strategy that is employed when an option trader thinks that the underlying security will experience little volatility in the near term. To implement long call ladder the trader purchases an in-the-money call, sells an at-the-money call and sells another higher strike out-of-the-money call of the same underlying security and expiration date.

6.7.2 Bear Put Ladder: Also known as long put ladder is an extension to the Bear Put Spread. It is a limited profit unlimited risk strategy that is employed when an option trader thinks that the underlying security will experience little volatility in the near term. To incorporate the long put ladder the trader purchases an in-the-money put, sells an at-the-money put and sells another lower strike out-of-the-money put of the same underlying security and expiration date.

6.7.3 Short Put Synthetic Straddle: is the recreation of short straddle strategy. It is a limited profit unlimited risk strategy is employed when an option trader thinks that the underlying security will experience little volatility in the near term. To set this strategy a trader will short the underlying stock and sells enough at-the-money puts to cover twice the number of shares sold. That is, the trader will make sure that for every 100 shares sold, 2 put contracts must be written.

6.7.4 Long Iron Butterfly: is an intermediate strategy which is a combination of a Bull Put Spread and a Bear Call Spread. It is a limited risk limited profit trading strategy which is employed when the underlying stock is perceived to have a low volatility. To setup an iron butterfly, the options trader buys a lower strike out-of-the-money put, sells a middle strike at-the-money put, sells a middle strike at-the-money call and buys another higher strike out-of-the-money call.

The present study will implement the above four strategies on two most actively traded indices and fifty individual stock options which are most actively traded in National Stock Exchange.

6.8 Period of Study: For the present study the Spot price and the Exercise price are taken for the month of July 2017.

VII. Results and Discussion

Table 3: Comparison of Premium Outlay for Selected OTSs

Sl. No.	Selected Indices & Stocks	STRATEGIES											
		Bull Call Ladder			Bear Put Ladder			Short Put Synthetic Straddle			Long Iron Butterfly		
		Premium Paid	Premium Received	Total Premium	Premium Paid	Premium Received	Total Premium	Premium Paid	Premium Received	Total Premium	Premium Paid	Premium Received	Total Premium
1	BANKNIFTY	45695	35620	-10075	32795	25650	-7145	NIL	34810	34810	19175	42095	22920
2	NIFTY	18000	7980	-10020	15205	9015	-6190	NIL	12820	12820	4065	12930	8865
3	INFY	4905	2200	-2705	3600	1355	-2245	NIL	2260	2260	685	2870	2185
4	TCS	15600	3825	-11775	13780	3060	-10720	NIL	5580	5580	660	6225	5565
5	SBIN	1460	755	-705	1880	635	-1245	NIL	1080	1080	180	1210	1030
6	RELIANCE	7610	4175	-3435	5985	2905	-3080	NIL	4530	4530	1720	5360	3640
7	AUROPHARMA	7505	3965	-3540	6100	2270	-3830	NIL	3900	3900	1275	4960	3685
8	RELCAPITAL	2930	2685	-245	2320	2140	-180	NIL	2880	2880	1635	3190	1555
9	HINDALCO	1340	455	-885	800	815	15	NIL	1050	1050	135	930	795
10	YESBANK	9025	6040	-2985	4650	2110	-2540	NIL	3260	3260	2130	6020	3890
11	CANBK	2250	1715	-535	1400	1395	-5	NIL	1790	1790	920	2060	1140
12	MARUTI	21200	22235	1035	11060	6645	-4415	NIL	9700	9700	8355	18625	10270
13	TATASTEEL	3165	1090	-2075	2080	995	-1085	NIL	1580	1580	240	1740	1500
14	DLF	1370	515	-855	1045	920	-125	NIL	1130	1130	195	1000	805
15	VEDL	1850	820	-1030	1185	600	-585	NIL	890	890	245	1115	870
16	BHARATFIN	5465	1590	-3875	6940	3505	-3435	NIL	5480	5480	1030	4100	3070
17	KOTAKBANK	3350	3085	-265	1790	2110	320	NIL	2560	2560	1345	3380	2035
18	PNB	1810	615	-1195	1215	305	-910	NIL	520	520	105	815	710
19	HDFCBANK	7500	3145	-4355	3575	1535	-2040	NIL	2440	2440	850	3665	2815
20	RECLTD	985	305	-680	1090	365	-725	NIL	630	630	60	575	515
21	AXISBANK	6165	4660	-1505	1400	410	-990	NIL	700	700	1350	3720	2370
22	TATAMOTORS	4000	1495	-2505	2050	265	-1785	NIL	460	460	180	1580	1400
23	JUBLFOOD	8550	5395	-3155	5085	2260	-2825	NIL	3600	3600	1860	5795	3935
24	TV18BRDCST	225	45	-180	290	115	-175	NIL	200	200	65	140	75
25	ADANIENT	1550	355	-1195	1000	365	-635	NIL	630	630	70	630	560
26	BANKBARODA	1250	180	-1070	725	730	5	NIL	1000	1000	50	665	615
27	SUNPHARMA	7740	2000	-5740	4085	135	-3950	NIL	250	250	75	2060	1985

28	ASHOKLEY	320	105	-215	830	395	-435	NIL	630	630	105	395	290
29	ITC	2015	745	-1270	1200	285	-915	NIL	480	480	155	875	720
30	FEDERAL BNK	930	455	-475	460	110	-350	NIL	200	200	95	470	375
31	DHFL	3500	1405	-2095	2265	405	-1860	NIL	710	710	250	1560	1310
32	RELINFRA	6150	1545	-4605	4205	310	-3895	NIL	610	610	80	1775	1695
33	HDFC	4870	2160	-2710	5745	1455	-4290	NIL	2700	2700	405	3210	2805
34	SUNTV	5605	975	-4630	4700	2765	-1935	NIL	5130	5130	315	3425	3110
35	HINDUNILVR	4000	1990	-2010	2460	1130	-1330	NIL	1740	1740	710	2410	1700
36	IOC	4220	1350	-2870	1880	155	-1725	NIL	290	290	460	1395	935
37	VOLTAS	3480	1155	-2325	1380	350	-1030	NIL	620	620	100	1385	1285
38	ACC	2830	1080	-1750	6690	5625	-1065	NIL	8990	8990	1390	5315	3925
39	INDUSINDBK	6705	2105	-4600	7390	1030	-6360	NIL	1800	1800	405	2730	2325
40	UNIONBANK	1460	225	-1235	1710	320	-1390	NIL	620	620	35	510	475
41	ONGC	1125	625	-500	425	65	-360	NIL	110	110	115	575	460
42	GMRINFRA	355	65	-290	210	20	-190	NIL	30	30	10	75	65
43	DCBBANK	1940	290	-1650	1250	335	-915	NIL	620	620	65	560	495
44	BANKINDIA	1470	1025	-445	220	120	-100	NIL	170	170	300	845	545
45	BAJFINANCE	6300	2305	-3995	2990	2810	-180	NIL	3820	3820	635	3905	3270
46	CESC	5560	1750	-3810	6400	1630	-4770	NIL	3100	3100	380	3000	2620
47	SINTEX	1300	515	-785	180	15	-165	NIL	20	20	50	480	430
48	ORIENTBANK	1150	600	-550	840	180	-660	NIL	270	270	155	625	470
49	BEML	20700	12505	-8195	7815	610	-7205	NIL	1100	1100	1720	11395	9675
50	ZEEL	3180	725	-2455	2775	675	-2100	NIL	1300	1300	90	1310	1220
51	WIPRO	1800	525	-1275	1060	180	-880	NIL	330	330	65	605	540
52	DIVISLAB	2910	220	-2690	6890	3900	-2990	NIL	6180	6180	370	3265	2895

Source: Calculation from the research study

VIII. Major Findings Of The Study

8.1 Findings for H_1 for Bull Call Ladder OTS:

H_1: From the above analysis and interpretations of payoff profiles pertaining to index options and individual stock options it is can found that there is no statistically significant difference in payoff profile of Bull Call Ladder strategy on Index options and also individual Stock Options, because the total premium outflow is negative compared to other three Option Trading Strategies. Hence in the case of Bull Call Ladder Option trading strategy Null Hypothesis is accepted and H1 is rejected.

8.2 Findings of H_1 for Bear Put Ladder OTS:

H_1: From the above analysis and interpretations of payoff profiles pertaining to index options and individual stock options it is can found that there is no statistically significant difference in payoff profile of Bear Put Ladder strategy on Index options and also individual Stock Options, because the total premium outflow is negative compared to other three Option Trading Strategies. Hence in the case of Bear Put Ladder Option trading strategy Null Hypothesis is accepted and H1 is rejected.

8.3 Findings of H_1 for Short Put Synthetic Straddle OTS:

8.3.1 Findings of H_1 for Short Put Synthetic Straddle OTS for Index options:

H_1: From the above analysis and Interpretation of payoff profiles pertaining to index options it is found that the premium inflow is maximum in case of Short Put Synthetic Straddle for both Nifty Bank and Nifty. Hence it can be said that in case of index options Short Put Synthetic Straddle will make a difference in terms of inflow of Premium compared to other option trading strategies. Therefore the Null Hypothesis is rejected and H1 is accepted in this case.

8.3.2 Findings of H_1 for Short Put Synthetic Straddle OTS for Individual Stock options:

H_1: From the above analysis and Interpretation of payoff profiles pertaining to individual stock options it is found that the premium inflow is maximum in case of Short Put Synthetic Straddle for 27 Individual stock options out of 50 stock options selected for data analysis and interpretation. Hence it can be said that in case of individual stock options Short Put Synthetic Straddle will make a difference in terms of inflow of Premium compared to other option trading strategies. Therefore the Null Hypothesis is rejected and H1 is accepted in this case.

8.4 Findings of H_1 for Long Iron Butterfly OTS:

8.4.1 Findings of H_1 for Long Iron Butterfly OTS for Index options:

H_1: From the above analysis and Interpretation of payoff profiles pertaining to index options it is found that the premium inflow is optimal in case of Long Iron Butterfly for both Nifty Bank and Nifty. Here the optimal is used because the Premium inflow is less than Short Put Synthetic Straddle and more than Bull Call

Ladder and Bear Put Ladder Strategies. Hence it can be said that in case of index options Short Put Synthetic Straddle will make a difference in terms of inflow of Premium compared to other option trading strategies. Therefore the Null Hypothesis is rejected and H1 is accepted in this case.

8.4.2 Findings of H_1 for Long Iron Butterfly OTS for Individual Stock options:

H_1: From the above analysis and Interpretation of payoff profiles pertaining to individual stock options it is found that the premium inflow is maximum in case of Long Iron Butterfly for 23 Individual stock options out of 50 stock options and it is optimal in case of the rest 27 stocks selected for data analysis and interpretation. Hence it can be said that in case of individual stock options Long Iron Butterfly will make a difference in terms of inflow of Premium compared to other option trading strategies. Therefore the Null Hypothesis is rejected and H1 is accepted in this case.

IX. Conclusion

From the above stated analysis and findings following conclusion can be made:

- Bull call ladder OTS will not have a significant impact on optimizing the returns to option trader as it gives negative premium payoff in case of index options.
- Bull call ladder OTS will not have a significant impact on optimizing the returns to option trader as it gives negative premium payoff in case of individual stock options.
- Bear put ladder OTS will not have a significant impact on optimizing the returns to option trader as it gives negative premium payoff in case of index options.
- Bear put ladder OTS will not have a significant impact on optimizing the returns to option trader as it gives negative premium payoff in case of individual stock options.
- Short put synthetic straddle OTS will have a significant impact on optimizing the returns to option trader as it gives positive and maximum premium inflow out of all four OTSs selected.
- Short put synthetic straddle OTS will have a significant impact on optimizing the returns to option trader as it gives positive and maximum premium inflow for 27 individual stock options out of 50 individual stock options selected. Compared to other three OTSs this strategy is optimal and effective in minimizing the premium expense to the option trader.
- Long iron butterfly OTS will have a significant impact on optimizing the returns to option trader as it gives positive and optimal premium inflow out of all four OTSs selected.
- Long iron butterfly OTS will have a significant impact on optimizing the returns to option trader as it gives positive and optimal premium inflow for 23 individual stock options out of 50 individual stock options selected. Compared to other three OTSs this strategy is optimal and effective in minimizing the premium expense to the option trader next to Short put synthetic straddle OTS.

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Appendix

Comparison of Premium Outlay for Selected OTSs

Sl. No.	Selected Indices & Stocks	STRATEGIES											
		Bull Call Ladder			Bear Put Ladder			Short Put Synthetic Straddle			Long Iron Butterfly		
		Premium Paid	Premium Received	Total Premium	Premium Paid	Premium Received	Total Premium	Premium Paid	Premium Received	Total Premium	Premium Paid	Premium Received	Total Premium

1	BANKNIFTY	45695	35620	-10075	32795	25650	-7145	NIL	34810	34810	19175	42095	22920
2	NIFTY	18000	7980	-10020	15205	9015	-6190	NIL	12820	12820	4065	12930	8865
3	INFY	4905	2200	-2705	3600	1355	-2245	NIL	2260	2260	685	2870	2185
4	TCS	15600	3825	-11775	13780	3060	-10720	NIL	5580	5580	660	6225	5565
5	SBIN	1460	755	-705	1880	635	-1245	NIL	1080	1080	180	1210	1030
6	RELIANCE	7610	4175	-3435	5985	2905	-3080	NIL	4530	4530	1720	5360	3640
7	AUROPHARMA	7505	3965	-3540	6100	2270	-3830	NIL	3900	3900	1275	4960	3685
8	RELCAPITAL	2930	2685	-245	2320	2140	-180	NIL	2880	2880	1635	3190	1555
9	HINDALCO	1340	455	-885	800	815	15	NIL	1050	1050	135	930	795
10	YESBANK	9025	6040	-2985	4650	2110	-2540	NIL	3260	3260	2130	6020	3890
11	CANBK	2250	1715	-535	1400	1395	-5	NIL	1790	1790	920	2060	1140
12	MARUTI	21200	22235	1035	11060	6645	-4415	NIL	9700	9700	8355	18625	10270
13	TATASTEEL	3165	1090	-2075	2080	995	-1085	NIL	1580	1580	240	1740	1500
14	DLF	1370	515	-855	1045	920	-125	NIL	1130	1130	195	1000	805
15	VEDL	1850	820	-1030	1185	600	-585	NIL	890	890	245	1115	870
16	BHARATFIN	5465	1590	-3875	6940	3505	-3435	NIL	5480	5480	1030	4100	3070
17	KOTAKBANK	3350	3085	-265	1790	2110	320	NIL	2560	2560	1345	3380	2035
18	PNB	1810	615	-1195	1215	305	-910	NIL	520	520	105	815	710
19	HDFCBANK	7500	3145	-4355	3575	1535	-2040	NIL	2440	2440	850	3665	2815
20	RECLTD	985	305	-680	1090	365	-725	NIL	630	630	60	575	515
21	AXISBANK	6165	4660	-1505	1400	410	-990	NIL	700	700	1350	3720	2370
22	TATAMOTORS	4000	1495	-2505	2050	265	-1785	NIL	460	460	180	1580	1400
23	JUBLFOOD	8550	5395	-3155	5085	2260	-2825	NIL	3600	3600	1860	5795	3935
24	TV18BRDCST	225	45	-180	290	115	-175	NIL	200	200	65	140	75
25	ADANIENT	1550	355	-1195	1000	365	-635	NIL	630	630	70	630	560
26	BANKBARODA	1250	180	-1070	725	730	5	NIL	1000	1000	50	665	615
27	SUNPHARMA	7740	2000	-5740	4085	135	-3950	NIL	250	250	75	2060	1985
28	ASHOKLEY	320	105	-215	830	395	-435	NIL	630	630	105	395	290
29	ITC	2015	745	-1270	1200	285	-915	NIL	480	480	155	875	720
30	FEDERALBNK	930	455	-475	460	110	-350	NIL	200	200	95	470	375
31	DHFL	3500	1405	-2095	2265	405	-1860	NIL	710	710	250	1560	1310
32	RELINFRA	6150	1545	-4605	4205	310	-3895	NIL	610	610	80	1775	1695
33	HDFC	4870	2160	-2710	5745	1455	-4290	NIL	2700	2700	405	3210	2805
34	SUNTV	5605	975	-4630	4700	2765	-1935	NIL	5130	5130	315	3425	3110
35	HINDUNILVR	4000	1990	-2010	2460	1130	-1330	NIL	1740	1740	710	2410	1700
36	IOC	4220	1350	-2870	1880	155	-1725	NIL	290	290	460	1395	935
37	VOLTAS	3480	1155	-2325	1380	350	-1030	NIL	620	620	100	1385	1285
38	ACC	2830	1080	-1750	6690	5625	-1065	NIL	8990	8990	1390	5315	3925
39	INDUSINDBK	6705	2105	-4600	7390	1030	-6360	NIL	1800	1800	405	2730	2325
40	UNIONBANK	1460	225	-1235	1710	320	-1390	NIL	620	620	35	510	475
41	ONGC	1125	625	-500	425	65	-360	NIL	110	110	115	575	460
42	GMRINFRA	355	65	-290	210	20	-190	NIL	30	30	10	75	65
43	DCBBANK	1940	290	-1650	1250	335	-915	NIL	620	620	65	560	495
44	BANKINDIA	1470	1025	-445	220	120	-100	NIL	170	170	300	845	545
45	BAJFINANCE	6300	2305	-3995	2990	2810	-180	NIL	3820	3820	635	3905	3270
46	CESC	5560	1750	-3810	6400	1630	-4770	NIL	3100	3100	380	3000	2620
47	SINTEX	1300	515	-785	180	15	-165	NIL	20	20	50	480	430
48	ORIENTBANK	1150	600	-550	840	180	-660	NIL	270	270	155	625	470
49	BEML	20700	12505	-8195	7815	610	-7205	NIL	1100	1100	1720	11395	9675
50	ZEEL	3180	725	-2455	2775	675	-2100	NIL	1300	1300	90	1310	1220
51	WIPRO	1800	525	-1275	1060	180	-880	NIL	330	330	65	605	540
52	DIVISLAB	2910	220	-2690	6890	3900	-2990	NIL	6180	6180	370	3265	2895
53	DRREDDY	21200	5120	-16080	12000	7165	-4835	NIL	10790	10790	1675	9740	8065

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